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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/924,308	08/06/2001	Nischal Abrol	000338	3080

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Qualcomm Incorporated
Patents Department
5775 Morehouse Drive
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EXAMINER	
NG, CHRISTINE Y	
ART UNIT	**PAPER NUMBER**
2663	

DATE MAILED: 03/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/924,308	ABROL ET AL.	
	Examiner	Art Unit	
	Christine Ng	2663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 August 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-105* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *See Continuation Sheet* is/are rejected.

7)☒ Claim(s) *See Continuation Sheet* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 August 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3/24/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Continuation of Disposition of Claims: Claims rejected are 1-4,8-10,14-17,19-22,30-33,37-39,43-46,48-51,59-62,64,66,67,71,72,74-77,83,84,88-91,93,95,96 and 98-100.
Continuation of Disposition of Claims: Claims objected to are 5-7,11-13,18,23-29,34-36,40-42,47,52-58,63,65,68-70,73,78-82,85-87,92,94,97 and 101-105.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2, 30, 31, 59, 60, 88, 89 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,252,891 to Perches.

Referring to claims 1, 30, 59 and 88, Perches discloses in a communications device (Figure 1, computer 11) comprising:

A processor (software and hardware in computer 11) configured to:

Delimit frame boundaries of a payload (Figure 2A, network protocol portion and payload portion).

Calculate a value (checksum) as a function of a subset (payload fields 1-5 and 10-11) of the payload.

Append the value (checksum) to the payload (into network protocol portion 0.2) within the frame boundaries. Refer to Column 1, lines 44-57 and Column 2, lines 58-62.

A transmitter (software and hardware in computer 11) configured to transmit the processed frame (to generator 13). Refer to Column 2, lines 62-66.

Referring to claims 2, 31, 60 and 89, Perches discloses in Figure 2A that the processor is further configured to append a preamble (network protocol portion) to the beginning of the payload, the preamble (network protocol portion) having the value (checksum). Refer to Column 1, lines 44-57 and Column 3, lines 8-10.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 14, 16, 17, 43, 45, 46, 71, 72, 95 and 96 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,675,591 to Salzwedel et al.

Referring to claims 14, 43, 71 and 95, Salzwedel et al disclose in Figure 1 a communications device (handset 104), comprising :

A receiver (RX 108) configured to receive frame (Figure 2) having a payload (segments 202-206) with a first value (checksum 224) appended thereto. Refer to Column 3, lines 19-21 and Column 3, line 64 to Column 4, line 32.

A processor (processor 118) configured to calculate a second value (calculated checksum) as a function of a subset (last segment 206) of the payload (segments 202-206), compare the second value (calculated checksum) to the first value (checksum 224), and detect a valid payload as a function of the comparison. Refer to Column 4, lines 55-65 and Column 4, line 55 to Column 5, line 19.

Referring to claims 16 and 45, Salzwedel et al disclose in Figure 2 that the payload (segments 202-206) comprises a plurality of bytes, the method further

comprises identifying a length field (length indicator 222) in the frame indicating the number of bytes in the payload. Refer to Column 4 lines 10-16 and lines 20-25.

Referring to claims 17 and 46, Salzwedel et al disclose in Figure 2 that the calculation of the second value (calculated checksum) is further a function of the length field (length indicator 222). Refer to Column 1,lines 46-55 and Column 6, lines 8-32.

Referring to claims 72 and 96, refer to the rejection of claims 16 and 45 and the rejection of claims 17 and 46.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 3, 4, 32, 33, 61, 62, 64, 90, 91 and 93 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,252,891 to Perches.

Referring to claims 3 and 32, Perches discloses in Figure 2A that the payload comprises a plurality of bytes. Refer to Column 3, lines 7-16.

Perches does not disclose that the subset of the payload comprises the third, fourth and fifth bytes of the payload following the preamble.

However, Perches discloses in Figure 2A that fields 3-5 of the payload contain the user payload, the CRC field and the ID numbers, respectively. Fields 1-2 contain the marker field and the byte count field, which may be included in the preamble; fields 10-11 are optional since they contain padding bits and FCS bits. Refer to Column 3,

lines 7-34. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the subset of the payload comprises the third, fourth and fifth bytes of the payload following the preamble, the motivation being that the 3rd-5th payload fields contain important information about the user payload including the data itself, CRC bits, port number, stream number, protocol used and user defined data.

Referring to claims 4, 33, 64 and 93, Perches discloses in Figure 2 a length field (field 2: user payload byte count) which indicates the number of bytes in the payload, and wherein the calculation of the value (checksum) is further a function of the length field. Refer to Column 1, lines 44-57 and Column 3, lines 13-16. Perches does not specially disclose that the length field is in the preamble. However, since fields 1 and 2 of the payload portion occur before the user payload in field 3, fields 1 and 2 can also be considered the preamble, so the length field (field 2) is disposed in the preamble of the packet.

Referring to claims 61 and 90, Perches discloses in Figure 2A that the processor is further configured to calculate a second value (field 11: frame check sequence FCS) and append the second value to the end of the payload within the frame boundaries. Refer to Column 3, lines 31-32.

Perches does not disclose that the second value is a function of a second subset of the payload.

However, Perches disclose in Figure 2A that the first checksum in the network protocol portion is calculated based upon a subset of contained in the payload portion,

fields 1-5 and 10-11, since fields 6-9 are not yet attached to the packet before transmission to the network. Refer to Column 1, line 44 to Column 2, line 2. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the second value is also a function of a second subset of the payload, the motivation being that the second value is also a function of the same subset of the payload as the first value since fields 6-9 are attached to the packet by a generator before transmission onto the network.

Referring to claims 62 and 91, Perches discloses in Figure 2A that the payload comprises a plurality of bytes (Column 3, lines 7-16), the processor further configured to form a length field (field 2: user payload byte count) which indicates the number of bytes in the payload. Refer to Column 3, lines 13-16.

Perches does not disclose to calculate the second value as function of the second subset of the payload and the length field. The subset of the payload includes the length field (field 2: user payload byte count). Refer to the rejection of claims 61 and 90.

7. Claims 8-9 and 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,252,891 to Perches in view of U.S. Patent No. 5,675,591 to Salzwedel et al.

Referring to claims 8 and 37, Perches does not disclose that frame delimitation comprises appending the value (checksum) to the end of the payload.

Salzwedel et al disclose in Figure 2 that a checksum 224 is appended to the end

of the payload (segments 202-206). Refer to Column 4, lines 25-27. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that frame delimitation comprises appending the value to the end of the payload, the motivation being so that the receiver knows when it has received the whole payload in its entirety, and can then begin calculating its own checksum to compare with the received checksum to check the validity of the packet.

Referring to claims 9 and 38, Perches discloses in Figure 2A that the payload comprises a plurality of bytes. Refer to Column 3, lines 7-16.

Perches does not disclose that the subset of the payload comprises the third, fourth and fifth bytes of the payload following the preamble, and the last byte of the payload.

However, Perches discloses in Figure 2A that fields 3-5 of the payload contain the user payload, the CRC field and the ID numbers, respectively; field 11 of the payload contains the FCS data. Fields 1-2 contain the marker field and the byte count field, which may be included in the preamble; field 10 is optional since it contain padding bits. Refer to Column 3, lines 7-34. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the subset of the payload comprises the third, fourth and fifth bytes of the payload following the preamble and the last byte of the payload, the motivation being that the 3rd-5th and last payload fields contain important information about the user payload including the data itself, CRC bits, port number, stream number, protocol used, user defined data, and the FCS bits.

Referring to claims 10 and 39, refer to the rejection of claims 4, 33, 64 and 93

8. Claims 15 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,252,891 to Perches in view of U.S. Patent No. 5,428,629 to Gutman et al.

Perches does not disclose that frame identification comprises detecting a start flag.

Gutman et al disclose in Figure 2 that a packet commences with a frame delimiting start flag field. Refer to Column 4, lines 15-20. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that frame identification comprises detecting a start flag, the motivation being in order for the receiving side to determine when it is receiving a new frame.

9. Claims 19, 48, 74, 77 and 98 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,675,591 to Salzwedel et al in view of U.S. Patent No. 5,850,526 to Chou.

Referring to claims 19, 48, 74 and 98, Salzwedel et al do not disclose Determining whether the number of payload bytes indicated by the length field exceeds a threshold, the valid frame detection further being a function of the length field determination.

Chou discloses in Figure 5 that the length field (TYPE/LEN) of a packet is compared with a threshold length value to determine factors such as whether or not data compression is needed since smaller packets requires no compression. Refer to Column 7, lines 22-33 and Column 9, lines 43-54. Therefore, it would have been

obvious to one of ordinary skill in the art at the time the invention was made to include determining whether the number of payload bytes indicated by the length field exceeds a threshold, the valid frame detection further being a function of the length field determination, the motivation being so that the length of the payload can be compared with a threshold to determine whether or not certain operations have to be performed on the packet depending on its size.

Referring to claim 77, refer to the rejection of claims 22, 51 and 100.

10. Claims 20, 21, 49, 50, 75, 76 and 99 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,675,591 to Salzwedel et al in view of U.S. Patent No. 4,494,233 to Bahr et al.

Referring to claims 20, 49, 75 and 99, Salzwedel et al disclose in Figure 1 that the frame including the payload comprises a plurality of bytes (Column 4, lines 10-13), the receiver (handset 104) further being configured to receive the frame in a serial byte stream (Column 3, lines 16-17), and wherein the processor (processor 118) is further configured to determine whether all the payload bytes are received from receipt of the first payload byte (using length indicator 222), the valid frame detection by the processor being a function of the payload byte determination. Refer to Column 6, lines 20-32.

Salzwedel et al do not disclose that the processor determines whether all the payload bytes are received *within a predetermined time*.

Bahr et al discloses in Figure 3 a packet time out counter 48; a data packet must be received within the predetermined time out period as measured by the packet time

out counter 48. Refer to Column 3, lines 37-42 and Column 3, line 56 to Column 4, line 14. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the processor determines whether all the payload bytes are received *within a predetermined time*, the motivation being to limit the amount of time a packet is given to be received in its entirety, thereby preventing following packets from being delayed.

Referring to claims 21, 50 and 76, Salzwedel et al disclose that the processor (processor 118) is further configured to identify a length field (length indicator 222) in the frame indicating the number of bytes in the payload, the payload byte determination being a function of the length field indication. Refer to Column 6, lines 20-32.

11. Claims 22, 51 and 100 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,675,591 to Salzwedel et al.

Salzwedel et al disclose in Figure 1 that the frame including the payload comprises a plurality of bytes (Column 4, lines 10-13), the receiver (handset 104) further being configured to receive the frame in a serial byte stream (Column 3, lines 16-17), and wherein the processor (processor 118) is further configured to count the number of payload bytes (Column 6, lines 8-11), and declare an invalid frame if the payload byte count is below a threshold (length indicator 222). The processor 118 compares the length count to the length indicator and if they do not match, the handset 104 has not yet accurately received the entire frame of data. Refer to Column 6, lines 20-32 and Column 7, lines 10-27.

Salzwedel et al do not specifically disclose that the processor counts the number of payload bytes received *within a predetermined time.*

However, Salzwedel et al disclose that the processor 118 maintains a length count corresponding to the number of packets received within a predetermined time (the time it takes for the entire packet to be received), which is indicated by a predetermined end-of-data signal. The processor 118 then compares the length count to the length indicator of the frame to determine if the entire packet has been sent. Refer to Column 5, lines 33-39 and Column 5, line 61 to Column 6, line 32. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the processor counts the number of payload bytes received *within a predetermined time*, the motivation being to check at the predetermined time whether or not the entire frame has been sent.

12. Claims 66, 67, 83 and 84 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,252,891 to Perches in view of U.S. Publication No. 20020101832 to Chen et al.

Perches does not disclose that the transmitter in the computer comprises a wireless, CDMA transmitter.

Chen et al disclose in Figure 1 that a wireless computer 12 with a CDMA transmitter. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to disclose that the transmitter in the computer comprises a wireless, CDMA transmitter, the motivation being that CDMA is a wireless protocol that allows frequency reuse since devices share the same carrier frequency

isolated by different codes and wireless computers are readily capable of moving from location to location. Refer to Sections 0004 and 0037-0041.

Allowable Subject Matter

13. Claims 5-7, 11-13, 18, 23-29, 34-36, 40-42, 47, 52-58, 63, 65, 68-70, 73, 78-82, 85-87, 92, 94, 97 and 101-105 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine Ng whose telephone number is (571) 272-3124. The examiner can normally be reached on M-F; 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C. Ng cn
March 4, 2005

RICKY NGO
PRIMARY EXAMINER
3/7/05